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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/470,434	12/22/1999	GRIFFITH D. NEAL	8864/7	6144

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EXAMINER

LAM, THANH

ART UNIT PAPER NUMBER

2834

DATE MAILED: 07/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/470,434

Applicant(s)
Neal

Examiner
Thanh Lam

Art Unit
2834



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE filed on 6/17/2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

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DETAILED ACTION

Continued Prosecution Application

1. The request filed on 6/17/2002 for a RCE under 37 CFR 1.53(d) based on parent Application No. 09/470434 is acceptable and a RCE has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1,3-26,29-37,39,43-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Kuwert et al.

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Kuwert et al. disclose a high speed spindle motor comprising: a stator assembly comprising a stator (8) having multiple conductors that create a plurality of magnetic fields when electrical current is conducted by the conductors; and a body (16) of a phase change material (thermaplastic col. 2, lines 49-50) substantially encapsulating the stator; a rotatable hub (3) having a magnet (7) connected thereto in operable proximity to the stator; a shaft (2); a bearing (4) around the shaft; and one of the shaft being fixed to the stator assembly and the other of the shaft being fixed to the rotatable hub.

Regarding claim 3, Kuwert et al. disclose the bearing is fixed to the stator assembly.

Regarding claim 4, Kuwert et al. disclose the bearing is fixed to the body.

Regarding claim 5, Kuwert et al. disclose the shaft is fixed to the hub.

Regarding claim 6, Kuwert et al. disclose the magnet is fixed to the hub.

Regarding claim 7, Kuwert et al. disclose the magnet is fixed to the shaft which in turn is fixed to the hub.

Regarding claim 8, Kuwert et al. disclose the shaft is fixed to the stator assembly.

Regarding claim 9, Kuwert et al. disclose the stator further comprises a core and the conductors (15) induce magnetic fields in the core when current is conducted by the conductors.

Regarding claim 10, Kuwert et al. disclose the core comprises steel laminations.

Regarding claim 11, Kuwert et al. disclose the core has a plurality of poles and the conductors comprise windings around said poles.

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Regarding claim 12, Kuwert et al. disclose the conductors comprise a plurality of windings (9).

Regarding claim 13, Kuwert et al. disclose the spindle motor comprises a pancake motor and the conductors comprise windings mounted on a circuit board.

Regarding claim 14, Kuwert et al. disclose the conductors comprise electrical traces on a circuit board (conductors 15 connected to).

Regarding claim 15, Kuwert et al. disclose the hub comprises a hard drive disc support member (1).

Regarding claim 16, Kuwert et al. disclose the motor is able to operate at over 5000 rpm.

Regarding claim 17, Kuwert et al. disclose the motor is able to operate at at least 7500 rpm.

Regarding claim 18, Kuwert et al. disclose the motor is able to operate at at least 10,000 rpm.

Regarding claim 19, Kuwert et al. disclose the magnet connected to the hub is a permanent magnet.

Regarding claim 20, Kuwert et al. disclose the bearing includes an upper bearing and a lower bearing.

Regarding claim 21, Kuwert et al. disclose the body surrounds the upper bearing and the lower bearing.

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Regarding claim 22, Kuwert et al. disclose the stator assembly further comprises terminals for connecting the conductors to a power source external to the motor.

Regarding claim 23, Kuwert et al. disclose the terminals are partially encapsulated within the body.

Regarding claim 24, Kuwert et al. disclose apertures are formed within the body for mounting the high speed motor to a hard disc drive.

Regarding claim 25, Kuwert et al. disclose the magnet is concentrically disposed around the stator.

Regarding claim 26, Kuwert et al. disclose the bearing comprises ball bearings.

Regarding claim 29, Kuwert et al. disclose the stator concentrically surrounds the magnet.

Regarding claim 30, Kuwert et al. disclose the phase change material comprises a material that changes from a liquid to a solid due to a change in temperature.

Regarding claim 31, Kuwert et al. disclose the phase change material comprises a thermoplastic material.

Regarding claim 32, Kuwert et al. disclose the phase change material comprises a thermosetting material.

Regarding claim 33, Kuwert et al. disclose the phase change material comprises a material that changes from a liquid to a solid due to a chemical reaction.

Regarding claim 34, Kuwert et al. disclose the phase change material comprises an epoxy.

Regarding claim 35, Kuwert et al. disclose the stator and magnet are generally coplanar.

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Regarding claim 36, Kuwert et al. disclose a solid insert is substantially encapsulated within the body.

Regarding claim 37, Kuwert et al. disclose the insert provides structural rigidity to the stator assembly.

Regarding claim 39, Kuwert et al. disclose a first portion of a magnetic bearing is substantially encapsulated within the body and a second opposing portion of the magnetic bearing is attached to the hub.

Regarding claim 43, Kuwert et al. disclose the shaft is fixed to the body and the insert is positioned between the shaft and the bearing.

Regarding claim 45, Kuwert et al. disclose an enhancement magnet is substantially encapsulated within the body.

Regarding claim 46, Kuwert et al. disclose a thermoplastic material is injection molded to form the body.

Regarding claim 47, Kuwert et al. disclose the thermoplastic body is monolithic.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claim 57 is rejected under 35 U.S.C. 102(e) as being anticipated by Nakao et al.

Nakao et al. disclose a high speed spindle motor comprising: a stator substantially encapsulated in a thermoplastic body (30) so as rigidly fix the stator and body together, the thermoplastic body having a cylindrical hole (where the bearing 3 is held) therein; a bearing (3) press fit into the cylindrical hole; a shaft rotatably supported by the bearing; and a hub having a magnet (14) connected thereto, the hub being fixed to the shaft (13).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 27-28,40,44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwert et al.

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Kuwert et al. disclose the claimed invention except for the bearing comprises an oversized bearing having an outer diameter of over 13 mm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the bearing as taught by Prior art to constitute the bearing comprises an oversized bearing having an outer diameter of over 13 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claims 28 and 40, utilize a magnetic bearing or a hydrodynamic bearing for a motor is a subject matter of a design of choice.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwert et al. in view of Dunfield et al. (5,694,268).

Kuwert et al. disclose all aspect of the claimed invention except for the insert enhances dampening motor vibration and audible noise.

Dunfield et al. disclose the inserts enhances dampening of motor vibration and audible noise.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the phase change body of Kuwert et al. and modify to place the insert as taught by Dunfield et al. in order reduce vibrations and noises.

Double Patenting

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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11. Claims 2,38,48-56, and 58-60 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1,7-9, 16-17,19 of U.S. Patent No. 6,300,695 Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitation of claim 59, the phase change material has a coefficient of linear thermal expansion of less than 2×10^{-5} in/in/°F throughout the range of 0-250°F (as claim 1 of Patent No. 6,300,695), the limitation of 60, phase change material has a thermal conductivity of at least 0.7 watts/meter°K at 23°C (as claims 9 and 16 of Patent No. 6,300,695) , the limitation of claim 58 ,ceramic particles (as claim 7 of Patent No. 6,300,695), the limitation of claim 2, a monolithic body (as claim 19 of Patent No. 6,300,695), and the limitation of claim 54 polyphenyl sulfide (as claim 19 of Patent No. 6,300,695).

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Conclusion

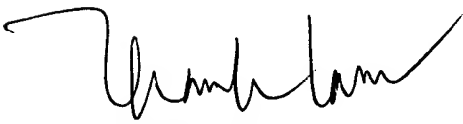
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (703) 308-7626. The fax phone number for this Group is (703) 305-3431.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0656.

A handwritten signature in black ink, appearing to read 'Thanh Lam', with a long horizontal stroke extending to the left.

Thanh Lam

Patent Examiner

July 12, 2002